IN THE CLAIMS:

1.(withdrawn) A ceramic composite electrolytic device for generating electrical power or for generating oxygen comprising:

a plurality of electrically connected solid state electrolytic cells, each of said cells comprising:

a ceramic composite body with first and second electrically conductive porous gas permeable electrode layers on opposite surfaces of said ceramic composite body, said first layer forming an anode and said second layer forming a cathode, and

a bipolar metal member for engagement with said ceramic composite body of said cell on one side, and with said ceramic composite body of another adjacent cell on the other side,

said ceramic composite body further comprising a metal member having a pattern of openings formed within a portion of the metal member for supporting a ceramic material,

said device further comprising a power connection connecting the output of said cells and an air supply to said cathode of said cell.

2. (cancelled)

3. (cancelled)

4.(currently amended) A method for manufacturing a ceramic composite oxygen or power generating cell comprising ~~the steps of:~~

providing a first metal member having a perimeter and a section ~~with~~ defining a pattern of openings ~~within a portion of the metal member for supporting a ceramic material, said metal member further having a perimeter~~;

applying a ceramic material to the section ~~with the pattern of openings~~,

firing ~~said metal member supporting~~ the ceramic material to create a ceramic composite ~~member~~ body;

coating at least a portion of ~~said portion of said~~ the ceramic composite ~~member~~ body with an electrically conductive material;

firing ~~said~~ the electrically conductive material ~~with said ceramic composite member~~ to form an electrode ~~layers~~ layer;

providing a bipolar metal member having contact portions extending outwardly in one or two directions from a plane of the bipolar metal member for engagement with ~~said~~ the ceramic composite ~~metal member~~ body;

connecting the bipolar metal member to the perimeter of ~~said~~ the first metal member~~, which metal member forms~~ of the ceramic composite ~~member~~ body~~;~~ wherein a gas tight chamber is formed between said ceramic composite ~~member~~ body and said bipolar metal member.

5.(currently amended) The method of Claim 4, wherein the step of applying the layer of ceramic material to the ~~hole~~ pattern of ~~the metal member~~ openings comprises dipping.

6.(Cancelled)

7.(currently amended) The method of Claim 4, wherein the ~~said~~ bipolar metal member and ~~said~~ the first metal member of ~~said~~ the ceramic composite body form an output for removing exhaust generated in said fuel chamber of said cell.

8. (currently amended) The method of Claim ~~6~~ 4, further comprising ~~the step of~~ applying an electrocatalyst layer to the ceramic material of the ceramic composite body ~~after the step of making the ceramic metal composite and before the step of forming the electrode layers~~.

9. (currently amended) The method of Claim ~~6~~ 4, further comprising ~~the step of~~ providing a current collector between the electrode layer and the bipolar metal member.

10.(currently amended) The method of Claim ~~6~~ 4, further comprising ~~the step of~~ sealing the ceramic composite ~~member~~ body with seal slip coat.

11. (currently amended) The method of Claim ~~6~~ 4, further comprising ~~the step of~~ attaching at least one metallic frame to said bipolar metal member.

12. (currently amended) The method of Claim ~~6~~ 4, wherein the gas tight seal is formed by welding.

13. (currently amended) The ~~device~~ method of Claim ~~6~~ 4, further comprising ~~the step of:~~ forming three dimensional structures on the surface of the bipolar metal member.

14. (currently amended) The ~~device~~ method of Claim ~~6~~ 4, wherein the three dimensional structures are formed by embossing.

15. (currently amended) The ~~device~~ method of Claim ~~6~~ 4, wherein the pattern of openings is formed by photochemical etching or photolithography.

16. (currently amended) The method of Claim ~~6~~ 4, further comprising ~~the steps of:~~

sealing the ceramic composite ~~member~~ body with a seal slip coat;

attaching at least one metallic frame to said bipolar metal member~~,~~ for supporting said bipolar member,

wherein~~:~~ the bipolar metal member has three dimensional structures on the surface thereof and an electrical contact layer ~~dispose~~ disposed on said three dimensional structures~~; and~~ , and further wherein the metal member of said ceramic composite body has a thickness of from 0.001 to 0.008 inches.

17.(currently amended) The method of Claim 16, further comprising ~~the steps of:~~

providing an output for removing exhaust generated in said cell;

providing a heat unit for heating said ~~plurality of cells~~ cell to a desired reaction temperature;

providing a fan for supplying air; and

providing at least one arm extending from the ceramic composite body.

18. (currently amended) The ~~device~~ method of Claim ~~6~~ 4, wherein the pattern of openings is a hexagonal close pack cell pattern, and ~~said~~ further wherein the first metal member ~~of said ceramic composite body~~ has a thickness of from 0.001 to 0.008 inches.

19.(currently amended) The method of Claim 16, further comprising:

providing a fluid fuel input in an arm;

providing a gas output in an arm;

wherein:

the fluid fuel input and the gas output are in the same or different arms.

20. (currently amended) The method of Claim 19, further comprising ~~the step of:~~

applying an electrocatalyst layer ~~between the step of making the ceramic metal composite and applying the electrode~~ to the ceramic material of the ceramic composite body.

21. (currently amended) The method of Claim ~~6~~ 4, further comprising ~~the step of:~~

disposing solid fuel between the bipolar metal member and the first metal member of ~~said~~ the ceramic composite body.

22. (currently amended) The method of Claim ~~6~~ 4, wherein

the electrode layer comprises silver;

~~the electrode layers are comprised~~ or a mixture of silver and a second metal selected from the group consisting of: gold; platinum; palladium; iridium; and mixtures thereof; and further wherein

the electrocatalyst layer ~~where present,~~ is comprised of a mixture of solid electrolyte particles and transition metal oxide particles; ~~wherein the transition metal oxide is selected from the group consisting of ruthenium oxide, iridium oxide, and mixtures thereof~~.

23. (currently amended) A method of manufacturing a ceramic composite oxygen or power generating cell stack comprising ~~the following steps:~~

~~a.~~ (a) providing at least two ceramic composite cells~~:~~, a first cell and a second adjacent cell, each cell comprising:

a ceramic composite body comprising~~:~~ a first metal member~~,~~ having a pattern of openings formed within a portion of the metal member ~~for supporting a ceramic material;~~ and a ceramic material disposed on said pattern of openings;

~~a~~ first and second electrically conductive porous gas permeable electrode layers on opposite surfaces of said ceramic composite body, said first electrode layer forming an anode and said second electrode layer forming a cathode;

a bipolar metal member for engagement with ~~said~~ the ceramic composite body of said first cell on one side~~,~~ and with ~~said~~ the ceramic composite body of ~~another adjacent~~ the second cell on the other side;

wherein said bipolar metal member and said first metal member ~~of said ceramic composite body~~ are interconnected at a gas tight seal surrounding said ceramic material to form a gas tight chamber and together forming an output for removing exhaust generated in said gas tight chamber of said cell; and

~~b.~~ (b) interconnecting the ceramic composite cells so that said ceramic composite cells are arranged in electrical series and gas parallel.

24.(currently amended) The method of Claim 23, further comprising ~~the step of:~~ disposing said stack at least partially within a thermal shell.

25.(Previously Presented) The method of Claim 24, wherein said thermal shell has a first, a second and a third concurrent metal layer.

26. (currently amended) The method of Claim 24, further comprising ~~the step of:~~ surrounding said stack with insulating ~~materials~~ material before inserting said stack into the thermal shell.

27. (currently amended) The method of Claim 23, further comprising ~~the step of:~~

providing at least one current collector interspaced between ~~the~~ an electrode layer of one cell and the bipolar metal member of the adjacent cell.

28. (currently amended) The method of Claim 23, further comprising ~~the step of:~~
providing a heating element to each end of the stack.

29. (currently amended) The method of Claim 23, further comprising ~~the steps of:~~
disposing said stack at least partially within a thermal shell;
surrounding said stack with insulating materials before inserting said stack into the thermal shell;
providing at least one current collector interspaced between ~~the~~ an electrode layer of one cell and the bipolar metal member of the adjacent cell; and
providing a heating element to each end of the stack.

30.(Previously Presented) The method of Claim 29, wherein the cells further comprise:
three dimensional structures on the surface of the bipolar metal member;
ceramic composite member with seal slip coat;
at least one metallic frame to said bipolar metal member, for supporting said bipolar member,
wherein the metal member of said ceramic composite body has a thickness of from 0.001 to 0.008 inches.

31. (currently amended)The method of Claim 29, wherein the cells further comprise:
an output for removing exhaust generated in said cell;
a heat unit for heating said ~~plurality of~~ cells to a desired reaction temperature;
a fan for supplying air;
at least one arm extending from the ceramic composite body.